ENGINEERING REPORT

for

Contract DACW-33-81-C0030

Work Order Number 7

Environmental Sampling at the Bourne Bridge

Bourne, Massachusetts



### TABLE OF CONTENTS

#### 1.0 GENERAL

- 1.1 Authorization
- 1.2 Purpose
- 1.3 Scope of Investigation
- 1.4 Quality Assurance

Chain of custody log
Figure 1 Sample Location Map - North Side
Figure 2 Sample Location Map - South Side
Appendix A Field Exploration Logs

#### 1.1 AUTHORIZATION

The work reported herein was performed under contract DACW-33-81-C-0030, Work Order No. 7 dated 31 March 1981.

#### 1.2 PURPOSE

The purpose of this work was to obtain approximately 60 sediment samples for environmental testing from twenty locations at the northern and southern abutments of the Bourne Bridge in Bourne, MA as shown on the attached Figure 1 and Figure 2. To accomplish this work 60 hand samples were obtained at 3 depths at each of the twenty locations.

#### 1.3 SCOPE OF INVESTIGATION

Sediment samples were taken at locations as shown on Figure 1 on Wednesday, 22 April 1981. The twenty sampling locations were as outlined in the specification and located in the field by taping. The bridge abutements were used as reference points for locating all the sampling locations. Ten of the sampling locations were located on the northern side of the canal and ten were located on the southern side of the Two deviations from the originally planned sampling locations were required for locations SBEL and SDEL since they fell on the asphalt surface of the access road. was moved from an offset distance of 40 feet from the bridge to 66 feet from the bridge. SDEl was moved from an offset 40 feet from the bridge to 20 feet from the distance of bridge. The lateral spacing of the samples remained as planned. Three samples were taken at each location at three depths; surface to one inch, three to six inches, and nine to The field exploration logs for all the twelve inches. samples are included as Appendix A to this report.

#### 1.4 OUALITY ASSURANCE

We hereby certify that the following equipment and sampling procedures were used to perform the sampling outlined in this report:

#### Equipment

Soil Sampling:

All soil sampling was conducted using a hand shovel. The retrieved samples were placed in 3 1/2 inch diameter by 3 1/2 inch high screw top glass jars.

Sampling Procedure:

The sampling locations for environmental sampling were located by taping distances from known existing field locations using a minimum of three ties. Sampling at each location was done at the three depths previously mentioned and the jars and exploration logs were marked as shown below to identify both the sample location and depth:

Sample <u>Location</u>	<u>Depth</u>
SAWA-1	0" - 1"
SAWA-2	3" - 6"
SAWA-3	9" -12"

A chain of custody log documenting the custody between sampling, storage, and delivery to the NED Laboratory in Waltham MA is included with this report. Sampling and storage procedures were carefully monitored by our on-site Quality Asuurance inspector, Mr. Ronald Bukowski, to insure strict adherence to the specifications.

All sample jars were marked on the cover and tagged with labels containing the following information:

Project identification
Date of sampling
Sample location and designation
Sample depths

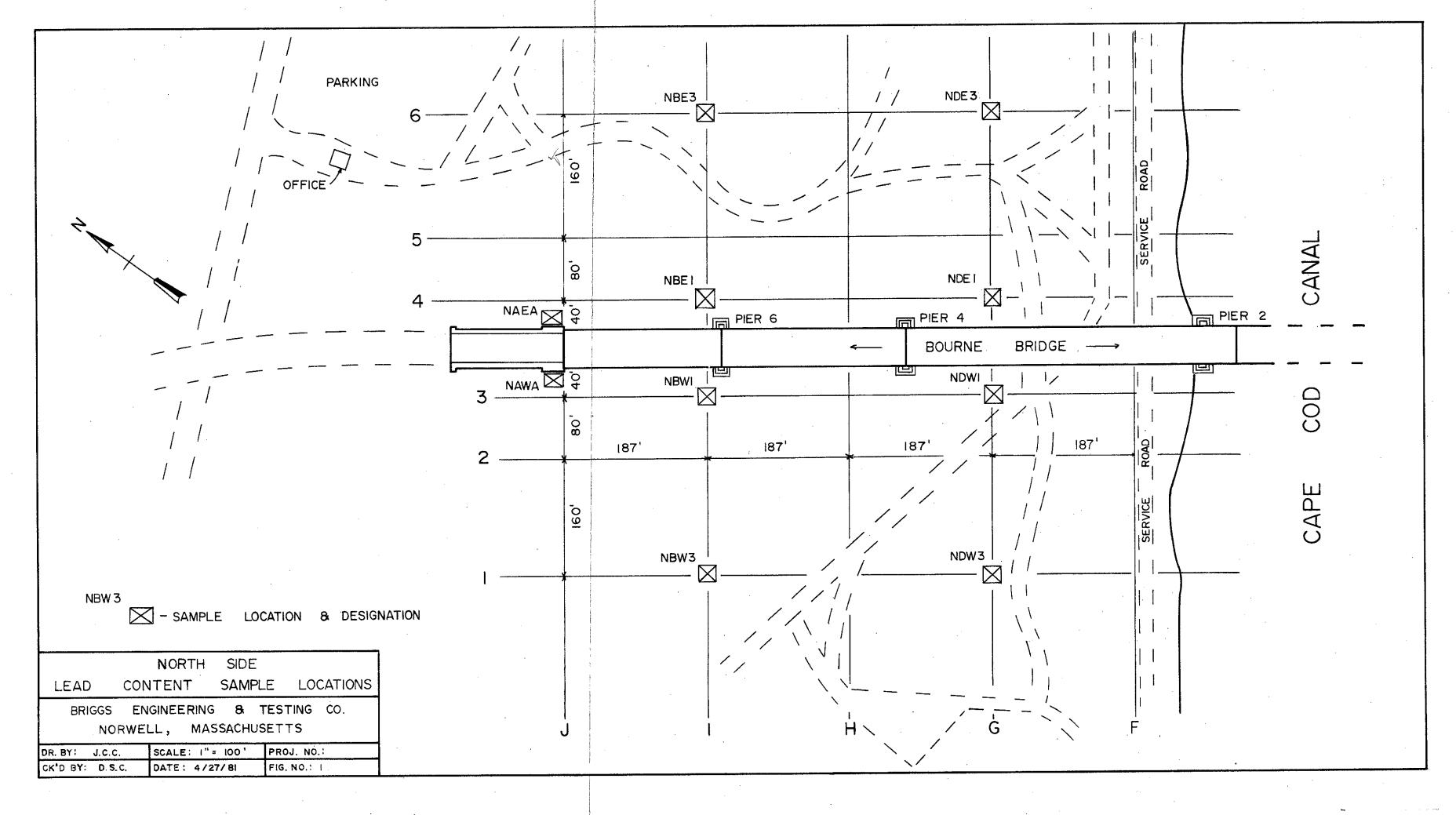
Certified 27 April 1981

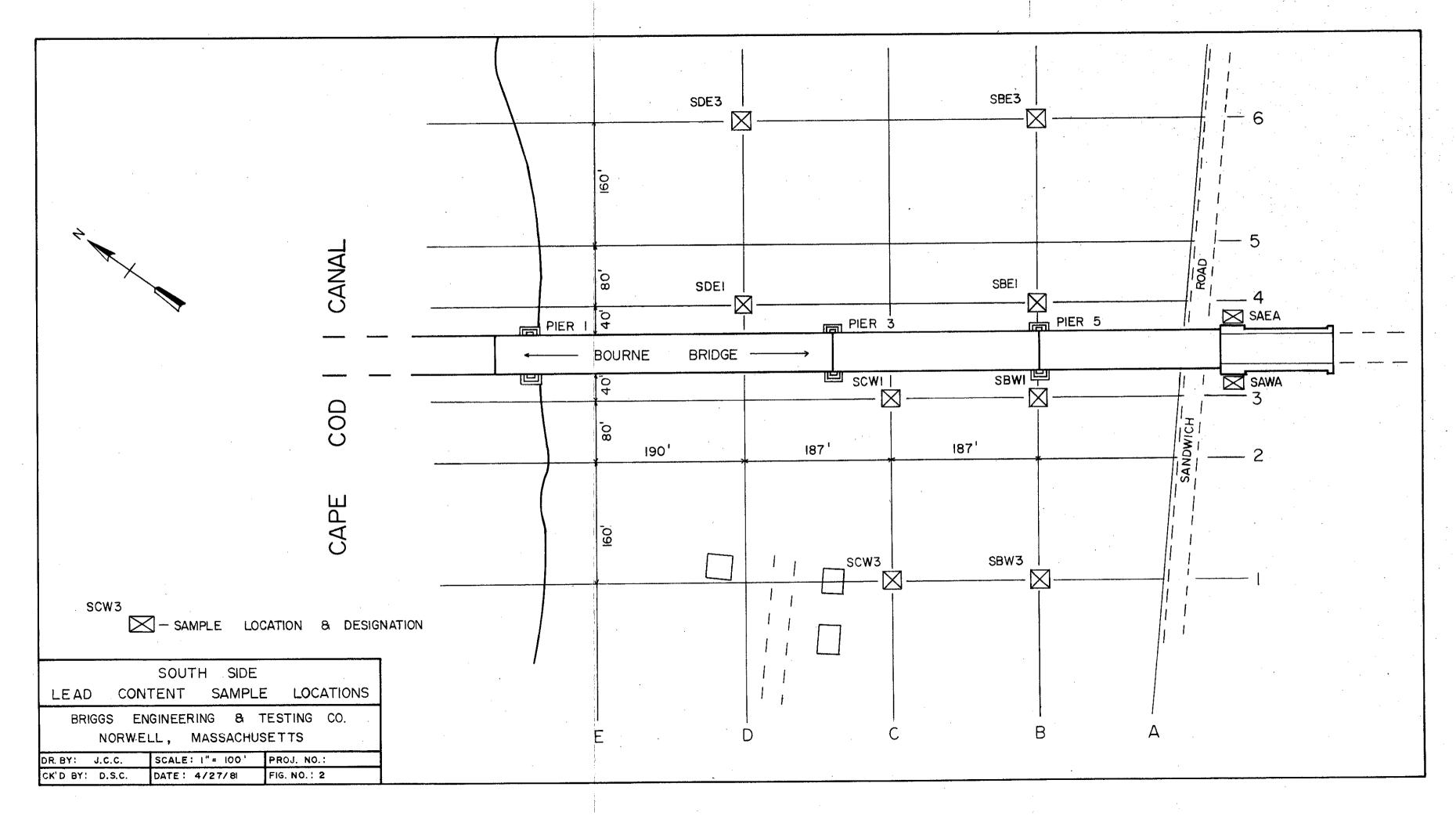
David S. Campbell P.E. Massachusetts No. 29145

### BRIGGS ENGINEERING CORPORATION

### Chain of Custody Log

Project: Environmenta	al Sampling - Bourne MA		
Items: Tubes _	none		
Bottles	none		
Jar Samples	sixty (60)		
Field Logs	sixty (60)		
Date & Time Received	Date & Time Transfered	Comments	Custodian
as sampled	<u>4/23/1981 - 0800 hrs</u>		<u>R.Bukowski</u>
<u>4/23/1981 - 0800 hrs</u>	4/24/1981 - 1400 hrs		_
4/24/1981 - 1400hrs		NED	Al Bridge





APPENDIX A
Field Exploration Logs

PROJECT: Bourne Bridge DATE: 22 April 1981
SAMPLER TYPE:  KULLENBERG PISTON DREDGE CORE WATER OTHER X
SAMPLE NO. SAWA-1 DESIGNATION: SAWA-1
COORDINATES: NORTH N/A EAST
LOCATION METHOD:  TRANSIT SOUNDING:N/A  RANGES LEAD LINE SEXTANT FATHOMETER VISUAL TIDEBOARD LORAN C TIDE TABLE TAPING X TIDE CURVE REDUCED SOUNDING:
NUMBER OF ATTEMPTS: N/A
MATERIAL DESCRIPTION: Topsoil: Grass, silty sand, coarse to fine sand
MATERIAL DEPTH: 0-1"
SAMPLE DISPOSITION: BAG JAR X _ LINER DISCARD
BARREL LENGTH: WEIGHT LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE QUARTS DOD PINTS SALINITY
JULIAN DATE:112SECCHI DISC READINGS:pH24 hr TIME:1450REDOXSEA STATE:N/ABLACK =WEATHER CODE02WHITE =
OPERATIONAL DIFFICULTIES
NO. OF SAMPLES SHIPPED:
INSPECTOR: Ronald Bukoski

PROJECT: Bourne Bridge DATE: 22 April 1981
SAMPLER TYPE: KULLENBERG PISTON DREDGE CORE WATER OTHER
SAMPLE NO. SAWA-2 DESIGNATION: SAWA-2
COORDINATES: NORTH N/A EAST
LOCATION METHOD:  TRANSIT SOUNDING:N/A  RANGES LEAD LINE SEXTANT FATHOMETER VISUAL TIDEBOARD LORAN C TIDE TABLE TAPING X REDUCED SOUNDING:ML
NUMBER OF ATTEMPTS:N/A
MATERIAL DESCRIPTION: Silty sand, C-F sand, 20-30% silt, less than 5% gravel
MATERIAL DEPTH: 3-6"
SAMPLE DISPOSITION: BAG JAR X LINER _ DISCARD
BARREL LENGTH: WEIGHT LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE QUARTS DOD PINTS SALINITY
JULIAN DATE: 112 SECCHI DISC READINGS: pH   24 hr TIME: 1453 REDOX
24 hr TIME: 1453 REDOX  SEA STATE: N/A BLACK = WHITE =
OPERATIONAL DIFFICULTIES
NO. OF SAMPLES SHIPPED:
INSPECTOR. Ronald Bukoski

### BRIGGS ENGINEERING CORPORATION

### ENVIRONMENTAL EXPLORATION LOG

PROJECT: Bourne Bridge DATE: 22 April 1981
SAMPLER TYPE:  KULLENBERG PISTON DREDGE CORE WATER OTHER X
SAMPLE NO. SAWA-2 DESIGNATION: SAWA-2
COORDINATES: NORTH N/A EAST
LOCATION METHOD:  TRANSIT SOUNDING:N/A  RANGES LEAD LINE SEXTANT FATHOMETER VISUAL TIDEBOARD LORAN C TIDE TABLE TAPING X TIDE CURVE REDUCED SOUNDING:MLW
NUMBER OF ATTEMPTS: N/A
MATERIAL DESCRIPTION: Silty sand, C-F sand, 20-30% silt, less than 5% gravel
MATERIAL DEPTH: 3-6'
SAMPLE DISPOSITION: BAG JAR X LINER DISCARD
BARREL LENGTH: WEIGHT LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE QUARTS DOD PINTS SALINITY
JULIAN DATE:112SECCHI DISC READINGS:pH24 hr TIME:1453REDOXSEA STATE:N/ABLACK =WEATHER CODE02WHITE =
OPERATIONAL DIFFICULTIES
NO. OF SAMPLES SHIPPED:
INSPECTOR: Ronald Bukoski

PROJECT: Bourne Bridge DATE: 22 April 1981
SAMPLER TYPE:  KULLENBERG PISTON DREDGE CORE WATER OTHER >
SAMPLE NOSAWA-3 DESIGNATION:SAWA-3
COORDINATES: NORTH N/A EAST
LOCATION METHOD:  TRANSIT SOUNDING:N/A  RANGES LEAD LINE SEXTANT FATHOMETER VISUAL TIDEBOARD LORAN C TIDE TABLE TAPING X TIDE CURVE REDUCED SOUNDING:MLV
NUMBER OF ATTEMPTS: N/A
MATERIAL DESCRIPTION: Silty sand, M-F sand, 30-40% silt
MATERIAL DEPTH: 9-12"
SAMPLE DISPOSITION: BAG JAR X LINER DISCARD
BARREL LENGTH: WEIGHT LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE  QUARTS DOD  PINTS SALINITY
JULIAN DATE: 112 SECCHI DISC READINGS: PH
24 hr TIME: 1455 REDOX  SEA STATE: N/A BLACK =  WEATHER CODE 02 WHITE =
OPERATIONAL DIFFICULTIES
NO. OF SAMPLES SHIPPED:
INSPECTOR: Ronald Bukoski

PROJECT: Bourne Bridge	DATE: 22 April 1981
SAMPLER TYPE: KULLENBERG PISTON DREI	OGE CORE WATER OTHER X
SAMPLE NO. <u>SAEA-1</u>	DESIGNATION: <u>SAEA-1</u>
COORDINATES: NORTH N/A	EAST
RANGES SEXTANT VISUAL	SOUNDING: N/A  LEAD LINE FATHOMETER TIDEBOARD TIDE TABLE TIDE CURVE REDUCED SOUNDING: MLW
NUMBER OF ATTEMPTS: N/A	
	grass, sand, M-F sand
MATERIAL DEPTH: 0-1"	
	R X LINER DISCARD
BARREL LENGTH: WEIGH	T LBS: FREE FALL:
	ALINITY
- 4 ·	DISC READINGS: pH REDOX
24 hr TIME: 1442  SEA STATE: N/A BLA  WEATHER CODE 02 WHI	CK =
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED:1	<del></del>
TNSPECTOR: Ronald Bukoski	

PROJECT: Bourne Bridge	DATE: 22 April 1981
SAMPLER TYPE: KULLENBERG PISTON DREDG	GE CORE WATER OTHER X
SAMPLE NO. <u>SAEA-2</u>	DESIGNATION: SAEA-2
COORDINATES: NORTH N/A	EAST
RANGES SEXTANT VISUAL LORAN C TARING X	SOUNDING:N/A LEAD LINE FATHOMETER TIDEBOARD TIDE TABLE PIDE CURVE REDUCED SOUNDING:MLW
NUMBER OF ATTEMPTS: N/A	
MATERIAL DESCRIPTION: Silty sand <5% gravel	d, C-F sand, 25-35% silt,
MATERIAL DEPTH: 3-6"	
SAMPLE DISPOSITION: BAG JAR	X LINER DISCARD
BARREL LENGTH: WEIGHT	LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEM  QUARTS DOI  PINTS SAMPLES:	MPERATURE D LINITY
JULIAN DATE:112SECCHI DI24 hr TIME:1444SEA STATE:N/ABLACKWEATHER CODE02WHITH	REDOX
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED: 1	<b>-</b>
INSPECTOR: Ronald Bukoski	_

PROJECT: Bourne Bridge	DATE: <u>22 April 1981</u>
GAMPI DD MYDE.	GE CORE WATER OTHER X
SAMPLE NO. <u>SAEA-3</u>	DESIGNATION: SAEA-3
COORDINATES: NORTH N/A	EAST
RANGES SEXTANT VISUAL LORAN C	SOUNDING: N/A  LEAD LINE  FATHOMETER  TIDEBOARD  TIDE TABLE  FIDE CURVE  REDUCED SOUNDING:MLW
NUMBER OF ATTEMPTS: N/A  MATERIAL DESCRIPTION: Silty san	d, C-F sand, 30-40% silt
MATERIAL DEPTH: 9-12"	
	X LINER DISCARD
BARREL LENGTH: WEIGHT	LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TE  QUARTS DO  PINTS SA	D
JULIAN DATE:112SECCHI D24 hr TIME:1446SEA STATE:N/ABLACWEATHER CODE02WHIT	ISC READINGS: pH REDOX K = E =
OPERATIONAL DIFFICULTIES  NO. OF SAMPLES SHIPPED:  INSPECTOR: Ronald Bukoski	_

PROJECT: Bourne Bridge DATE: 22	April 1981
SAMPLER TYPE: KULLENBERG PISTON DREDGE CORE	WATER OTHER X
SAMPLE NO. SBW3-1 DESIGNATION	:SBW3-1
COORDINATES: NORTH N/A EAST	
RANGES LEAD LINE SEXTANT FATHOMETER VISUAL TIDEBOARD LORAN C TIDE TABLE TABLE	
NUMBER OF ATTEMPTS:	
MATERIAL DESCRIPTION: Topsoil:sandy organic <5% gravel	silt, C-F sand,
MATERIAL DEPTH: 0-1"	
SAMPLE DISPOSITION: BAG JAR X LINER _	
BARREL LENGTH: WEIGHT LBS:	FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE  QUARTS DOD  PINTS SALINITY	
JULIAN DATE:112SECCHI DISC READINGS24 hr TIME:1551SEA STATE:N/ABLACK =WEATHER CODE02WHITE =	S: pH REDOX
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED:	
TNSPECTOR: Ronald Bukoski	

PROJECT: Bourne Bridge DATE: 22 April 1981	
SAMPLER TYPE:  KULLENBERG PISTON DREDGE CORE WATER OTHER	<u>X</u>
SAMPLE NO. SBW3-2 DESIGNATION: SBW3-2	
COORDINATES: NORTH N/A EAST	
LOCATION METHOD:  TRANSIT SOUNDING:N/A  RANGES LEAD LINE SEXTANT FATHOMETER VISUAL TIDEBOARD LORAN C TIDE TABLE TAPING X TIDE CURVE REDUCED SOUNDING:M	
NUMBER OF ATTEMPTS: N/A	
MATERIAL DESCRIPTION: Silty sand, M-F sand, 25-35% silt	
MATERIAL DEPTH: 3-6"	
SAMPLE DISPOSITION: BAG JAR X LINER DISCARD	
BARREL LENGTH: WEIGHT LBS: FREE FALL:	
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE  QUARTS DOD  PINTS SALINITY	
JULIAN DATE: 112 SECCHI DISC READINGS: pH	
24 hr TIME: 1554 REDOX  SEA STATE: N/A BLACK =  WEATHER CODE 02 WHITE =	
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED:	
INSPECTOR:Ronald Bukoski	

PROJECT: Bourne Bridge	DATE: 22 April 1981
CANDLED WATER	GE CORE WATER OTHER X
SAMPLE NO. <u>SBW3-3</u>	DESIGNATION: SBW3-3
COORDINATES: NORTH N/A	EAST
RANGES SEXTANT VISUAL LORAN C	SOUNDING:N/A
NUMBER OF ATTEMPTS: N/A	-
MATERIAL DESCRIPTION: Silty sam <5% roots	nd, M-F sand, 25-35% silt,
MATERIAL DEPTH: 9-12"	
SAMPLE DISPOSITION: BAG JAI	R X LINER DISCARD
BARREL LENGTH: WEIGH	T LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TO DO	OD
JULIAN DATE:112SECCHI24 hr TIME:1556SEA STATE:N/ABLAWEATHER CODE02WHI	DISC READINGS: pH  REDOX  CK =  TE =
OPERATIONAL DIFFICULTIES NO. OF SAMPLES SHIPPED:	
INSPECTOR: Ronald Bukoski	- <del></del>

### BRIGGS ENGINEERING CORPORATION

### ENVIRONMENTAL EXPLORATION LOG

PROJECT: Bourne Bridge DA	TE: 22 April 1981
SAMPLER TYPE: KULLENBERG PISTON DREDGE	CORE WATER OTHER X
SAMPLE NO. <u>SBW1-1</u> DE	SIGNATION: SBW1-1
COORDINATES: NORTH N/A	EAST
RANGES I SEXTANT I VISUAL I LOBAN C	UNDING:N/A LEAD LINE FATHOMETER FIDEBOARD FIDE TABLE DE CURVE DUCED SOUNDING:MLW
NUMBER OF ATTEMPTS: N/A	
MATERIAL DESCRIPTION: Loamey sand	, C-F sand, grass
MATERIAL DEPTH: 0-1"	
SAMPLE DISPOSITION: BAG JAR X	_ LINER DISCARD
BARREL LENGTH: WEIGHT LI	SS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMP QUARTS DOD PINTS SALID	
JULIAN DATE: 112 SECCHI DISC 24 hr TIME: 1510	C READINGS: pH
24 hr TIME: 1510 SEA STATE: N/A BLACK WEATHER CODE 02 WHITE	<b>=</b>
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED:	
INSPECTOR: Ronald Bukoski	

PROJECT: Bourne Bridge	DATE: 22 April 1981
SAMPLER TYPE: KULLENBERG PISTON DRED	GE CORE WATER OTHER X
SAMPLE NOSBW1-2	DESIGNATION: SBW1-2
COORDINATES: NORTH N/A	EAST
RANGES SEXTANT VISUAL LORAN C	SOUNDING:N/A  LEAD LINE FATHOMETER TIDEBOARD TIDE TABLE  TIDE CURVE REDUCED SOUNDING:MLW
NUMBER OF ATTEMPTS: N/A  MATERIAL DESCRIPTION: Silty sar M-F grave	nd, C-F sand, 20-30% silt, 20-25%
MATERIAL DEPTH: 3-6"	
	R X LINER DISCARD
BARREL LENGTH: WEIGHT	r LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TO DO	JD
24 hr TIME: <u>1512</u> SEA STATE: <u>N/A</u> BLA	DISC READINGS: pH  REDOX  CK = TE =
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED:1	<del></del>
INSPECTOR: Ronald Bukoski	

PROJECT: Bourne Bridge DATE:	22 April 1981
SAMPLER TYPE: KULLENBERG PISTON DREDGE	CORE WATER OTHER X
SAMPLE NO. <u>SBW1-3</u> DESIG	GNATION: <u>SBW1-3</u>
COORDINATES: NORTH N/A EA	AST
SEXTANT FATH VISUAL TIDE LORAN C TIDE TAPING X TIDE C	ING:N/A  D LINE HOMETER EBOARD E TABLE CURVE ED SOUNDING:MLW
NUMBER OF ATTEMPTS: N/A	
MATERIAL DESCRIPTION: Gravelly sand, 20-25% silt	C-F sand, 20-30% M-F gravel
MATERIAL DEPTH: 9-12"	
SAMPLE DISPOSITION: BAG JAR X_ I	LINER DISCARD
BARREL LENGTH: WEIGHT LBS:	FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMPERATE  QUARTS DOD  PINTS SALINITY	
JULIAN DATE:112SECCHI DISC RE24 hr TIME:1515SEA STATE:N/ABLACK =WEATHER CODE02WHITE =	REDOX
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED:1	
INSPECTOR: Ronald Bukoski	

PROJECT: Bourne Bridge	DATE:22 April 1981
SAMPLER TYPE: KULLENBERG PISTON DE	EDGE CORE WATER OTHER X
SAMPLE NO. SBE1-1	DESIGNATION:SBE1-1
COORDINATES: NORTH N/A	EAST
RANGES SEXTANT VISUAL LORAN C	SOUNDING:N/A
NUMBER OF ATTEMPTS:1	
MATERIAL DESCRIPTION: Topsoi	: silty sand, M-F sand, 15-20% silt
MATERIAL DEPTH: 0-1"	
SAMPLE DISPOSITION: BAG	JAR X LINER _ DISCARD
BARREL LENGTH: WEI	GHT LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS  QUARTS  PINTS	DOD
JULIAN DATE:       112       SECCH         24 hr TIME:       1502         SEA STATE:       N/A       B         WEATHER CODE       02       W	DISC READINGS: pH REDOX LACK = HITE =
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED:1_	
TNSPECTOR: Ronald Bukoski	

PROJECT: Bourne Bridge DATE: 22 April 1981	
SAMPLER TYPE:  KULLENBERG PISTON DREDGE CORE WATER OTHER	<u>X</u>
SAMPLE NO. SBE1-2 DESIGNATION: SBE1-2	
COORDINATES: NORTH N/A EAST	
DOCATION METHOD:   TRANSIT	
NUMBER OF ATTEMPTS:N/A	
MATERIAL DESCRIPTION: Silty sand, C-F sand, 20-30% silt	
MATERIAL DEPTH: <u>3-6"</u>	
SAMPLE DISPOSITION: BAG JAR X LINER DISCARD	
BARREL LENGTH: WEIGHT LBS: FREE FALL:	
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE OUARTS DOD PINTS SALINITY	
JULIAN DATE: 112 SECCHI DISC READINGS: pH	
SEA STATE: N/A BLACK = WEATHER CODE 02 WHITE =	
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED:	
INSPECTOR: Ronald Bukoski	

PROJECT: Bourne Bridge	DATE: <u>22 April 1981</u>
CAMPLED WVDE.	OGE CORE WATER OTHER X
SAMPLE NO. SBE1-2	DESIGNATION: SBE1-2
COORDINATES: NORTHN/A	EAST
RANGES SEXTANT VISUAL LORAN C	SOUNDING:N/A  LEAD LINE FATHOMETER TIDEBOARD TIDE TABLE TIDE CURVE REDUCED SOUNDING:MLW
NUMBER OF ATTEMPTS: N/A	<del>-</del>
MATERIAL DESCRIPTION: Silty sa	nd, C-F sanad, 20-30% silt
MATERIAL DEPTH: 3-6"	
SAMPLE DISPOSITION: BAG JA	R X LINER DISCARD
BARREL LENGTH: WEIGH	T LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS T  QUARTS D  PINTS S	OD
JULIAN DATE: 112 SECCHI 24 hr TIME: 1504	DISC READINGS: pH
SEA STATE: N/A BLA WEATHER CODE 02 WHI	CK =
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED:1	
INSPECTOR: Ronald Bukoski	. <del></del>

	PROJECT: Bourne Bridge DATE: 22 April 1981
	SAMPLER TYPE:  KULLENBERG PISTON DREDGE CORE WATER OTHER X
	SAMPLE NOSBE1-3 DESIGNATION:SBE1-3
	COORDINATES: NORTH N/A EAST
	COCATION METHOD:   TRANSIT
	NUMBER OF ATTEMPTS: N/A
	MATERIAL DESCRIPTION: Silty sand, C-F sand, 10-15% silt
1	MATERIAL DEPTH: 9-12"
	SAMPLE DISPOSITION: BAG JAR X LINER DISCARD
	BARREL LENGTH: WEIGHT LBS: FREE FALL:
	WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE  QUARTS DOD  PINTS SALINITY
	JULIAN DATE: 112 SECCHI DISC READINGS: pH
<del>,</del>	24 hr TIME: 1506 REDOX  SEA STATE: N/A BLACK = WEATHER CODE 02 WHITE =
·	OPERATIONAL DIFFICULTIES
3	NO. OF SAMPLES SHIPPED:
	INSPECTOR: Ronald Bukoski

PROJECT: <u>Bourne Bridge</u>	DATE: <u>22 Ar</u>	oril 1981	
SAMPLER TYPE: KULLENBERG PISTON DREI	OGE CORE	WATER	OTHER X
SAMPLE NO. <u>SBE3-1</u>	_ DESIGNATION: _	SBE3-1	
COORDINATES: NORTH N/A	EAST		
RANGES SEXTANT VISUAL LORAN C	SOUNDING:  LEAD LINE  FATHOMETER  TIDEBOARD  TIDE TABLE  TIDE CURVE  REDUCED SOUNDIN	- - -	
NUMBER OF ATTEMPTS: N/A	<del>-</del>		
MATERIAL DESCRIPTION: Sand, F			
MATERIAL DEPTH:			
SAMPLE DISPOSITION: BAG JA	R X_ LINER	DISCARD	
BARREL LENGTH: WEIGH			
WATER SAMPLES:  NUMBER: GALLONS T  QUARTS D  PINTS S	EMPERATURE OD ALINITY		
JULIAN DATE: 112 SECCHI	DISC READINGS:	pH REDOX	
24 hr TIME: 1614  SEA STATE: N/A BLA WEATHER CODE 02 WHI	CK =		
OPERATIONAL DIFFICULTIES			
NO. OF SAMPLES SHIPPED: 1			
INSPECTOR: Ronald Bukoski			

PROJECT: <u>Bourne Bridge</u>	DAT	E: <u>22 A</u>	<u>pril 1981                                   </u>	
SAMPLER TYPE: KULLENBERG PISTON	DREDGE _	_ CORE	WATER	OTHER X
SAMPLE NO. SBE3-2	DES	IGNATION:	SBE3-2	
COORDINATES: NORTH	N/A	EAST		
LOCATION METHOD: TRANSIT RANGES SEXTANT VISUAL LORAN C TAPING X	LE FA TI TIDE	AD LINE _ THOMETER _ DEBOARD _ DE TABLE _ CURVE	- - -	
NUMBER OF ATTEMPTS: N	/A			
MATERIAL DESCRIPTION: _	Sand, F sand			
MATERIAL DEPTH: 3-6"				
SAMPLE DISPOSITION: BA	G JAR <u>X</u>	LINER	DISCARD	
BARREL LENGTH:	WEIGHT LBS	S:	FREE FALL:	
WATER SAMPLES:  NUMBER: GALLON QUARTS PINTS	S TEMPER DOD SALINI		- - -	
JULIAN DATE: 112	SECCHI DISC	READINGS:	pH REDOX	
24 hr TIME: 1615 SEA STATE: N/A WEATHER CODE 02	BLACK =		KBDOX	
OPERATIONAL DIFFICULTIE	ES			
NO. OF SAMPLES SHIPPED:				
INSPECTOR:Ronald_Buk	oski			

PROJECT: Bourne Bridge	DATE: <u>22 A</u>	<u>pril 1981                                   </u>	
SAMPLER TYPE:  KULLENBERG PISTON DREI			
SAMPLE NO. <u>SBE3-3</u>	_ DESIGNATION:	SBE3-3	
COORDINATES: NORTH N/A	EAST		
RANGES SEXTANT VISUAL LOBAN C	SOUNDING:  LEAD LINE  FATHOMETER  TIDEBOARD  TIDE TABLE  TIDE CURVE  REDUCED SOUNDI	- - -	
NUMBER OF ATTEMPTS: N/A  MATERIAL DESCRIPTION: Sand, F			
MATERIAL DEPTH: 9-12"			
SAMPLE DISPOSITION: BAG JA			
BARREL LENGTH: WEIGH			
WATER SAMPLES:  NUMBER: GALLONS T  QUARTS D  PINTS S	EMPERATURE		
JULIAN DATE:112SECCHI24 hr TIME:1617SEA STATE:N/ABLAWEATHER CODE02WHI	.CK =	pH REDOX	
OPERATIONAL DIFFICULTIES NO. OF SAMPLES SHIPPED:			
INSPECTOR: Ronald Bukoski	-		

PROJECT: Bourne Bridge	DATE: 22 April 1981
SAMPLER TYPE: KULLENBERG PISTON DRED	GE CORE WATER OTHER X
SAMPLE NO. <u>SCW3-1</u>	DESIGNATION: <u>SCW3-1</u>
COORDINATES: NORTH N/A	EAST
RANGES SEXTANT VISUAL LORAN C TABING X	SOUNDING: N/A  LEAD LINE  FATHOMETER  TIDEBOARD  TIDE TABLE  TIDE CURVE  REDUCED SOUNDING:MLW
NUMBER OF ATTEMPTS: N/A	
MATERIAL DESCRIPTION: Sandy org	anic silt, 15-20% F sand
MATERIAL DEPTH: 0-1"	
SAMPLE DISPOSITION: BAG JAR	X LINER DISCARD
BARREL LENGTH: WEIGHT	LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TE  QUARTS DO  PINTS SA	D
JULIAN DATE:112SECCHI D24 hr TIME:1601SEA STATE:N/ABLACWEATHER CODE02WHIT	PISC READINGS: pH REDOX  CK = TE =
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED: 1	<del></del>
TNSPECTOR: Ronald Bukoski	_

PROJECT: Bourne Bridge DATE	E: <u>22 April 1981</u>
SAMPLER TYPE: KULLENBERG PISTON DREDGE	_ CORE WATER OTHER X
SAMPLE NO. <u>SCW3-2</u> DES	IGNATION: SCW3-2
COORDINATES: NORTH N/A	EAST
RANGES LEZ SEXTANT FA' VISUAL TI LORAN C TIDE	DING: N/A  AD LINE THOMETER DEBOARD DE TABLE CURVE CED SOUNDING:MLW
NUMBER OF ATTEMPTS: N/A MATERIAL DESCRIPTION: Sandy organic	silt, 15-20% F sand
MATERIAL DEPTH: 3-6"	
SAMPLE DISPOSITION: BAG JAR X_	LINER DISCARD
BARREL LENGTH: WEIGHT LBS	: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMPER  QUARTS DOD  PINTS SALINI	
JULIAN DATE: 112 SECCHI DISC 24 hr TIME: 1603	
24 hr TIME: 1603  SEA STATE: N/A  WEATHER CODE 02  WHITE =	
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED:1	
INSPECTOR: Ronald Bukoski	

PROJECT: Bourne Bridge DATE: 22 April 1981
SAMPLER TYPE: KULLENBERG PISTON DREDGE CORE WATER OTHER
SAMPLE NO. SCW3-3 DESIGNATION: SCW3-3
COORDINATES: NORTH N/A EAST
LOCATION METHOD:  TRANSIT SOUNDING:N/A  RANGES LEAD LINE SEXTANT FATHOMETER VISUAL TIDEBOARD LORAN C TIDE TABLE TAPING X TIDE CURVE REDUCED SOUNDING:ML
NUMBER OF ATTEMPTS: N/A
MATERIAL DESCRIPTION: Silty sand, C-F sand, 20-30% silt
MATERIAL DEPTH: 9-12"
SAMPLE DISPOSITION: BAG JAR X LINER DISCARD
BARREL LENGTH: WEIGHT LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE QUARTS DOD PINTS SALINITY
JULIAN DATE: 112 SECCHI DISC READINGS: PH
24 hr TIME: 1605 REDOX  SEA STATE: N/A BLACK =  WEATHER CODE 02 WHITE =
OPERATIONAL DIFFICULTIES
NO. OF SAMPLES SHIPPED:
INSPECTOR: Ronald Bukoski

PROJECT: Bourne Bridge DATE: 22 April 1981
SAMPLER TYPE:  KULLENBERG PISTON DREDGE CORE WATER OTHER }
SAMPLE NO. SCW1-1 DESIGNATION: SCW1-1
COORDINATES: NORTH N/A EAST
LOCATION METHOD:  TRANSIT SOUNDING:N/A  RANGES LEAD LINE SEXTANT FATHOMETER VISUAL TIDEBOARD LORAN C TIDE TABLE TAPING X TIDE CURVE REDUCED SOUNDING:MLV
NUMBER OF ATTEMPTS: N/A
MATERIAL DESCRIPTION: Topsoil, silty sand, grass, M-F sand
MATERIAL DEPTH: 0-1"
SAMPLE DISPOSITION: BAG JAR X LINER DISCARD
BARREL LENGTH: WEIGHT LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE  QUARTS DOD  PINTS SALINITY
JULIAN DATE: 112 SECCHI DISC READINGS: pH
24 hr TIME: REDOX SEA STATE:N/A BLACK = WEATHER CODE WHITE =
OPERATIONAL DIFFICULTIES
NO. OF SAMPLES SHIPPED:
INSPECTOR: Ronald Bukoski

PROJECT: Bourne Bridge	DATE: 22 April 1981
SAMPLER TYPE: KULLENBERG PISTON DRED	GE CORE WATER OTHER X
SAMPLE NO. <u>SCW1-2</u>	DESIGNATION: SCW1-2
COORDINATES: NORTH N/A	EAST
RANGES SEXTANT VISUAL LORAN C	SOUNDING:N/A
NUMBER OF ATTEMPTS: N/A	-
MATERIAL DESCRIPTION: Silty sar <10% F gr	nd, M-F sand, 15-20% silt avel
MATERIAL DEPTH: 3-6"	
SAMPLE DISPOSITION: BAG JAF	R X LINER _ DISCARD
BARREL LENGTH: WEIGHT	T LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS THOUSE DO  QUARTS DO  PINTS SA	D
JULIAN DATE: 112 SECCHI I	DISC READINGS: pH
24 hr TIME: 1534 SEA STATE: N/A BLAG WEATHER CODE 02 WHIT	REDOX CK = CE =
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED:	<del></del>
TNSPECTOR: Ronald Bukoski	

PROJECT: Bourne Bridge	DATE: <u>22 April 1981</u>
CAMPLED MYDE.	GE CORE WATER OTHER X
SAMPLE NO. <u>SCW1-3</u>	DESIGNATION: SCW1-3
COORDINATES: NORTH N/A	EAST
RANGES SEXTANT VISUAL LORAN C	SOUNDING: N/A  LEAD LINE  FATHOMETER  TIDEBOARD  TIDE TABLE  TIDE CURVE  REDUCED SOUNDING:MLW
NUMBER OF ATTEMPTS:1	
MATERIAL DESCRIPTION: Silty san <10% M-F	d, M-F sand, 15-20% silt gravel
MATERIAL DEPTH: 9-12"	
SAMPLE DISPOSITION: BAG JAR	X LINER DISCARD
BARREL LENGTH: WEIGHT	LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TE  QUARTS DO  PINTS SA	MPERATURE DD ALINITY
JULIAN DATE: 112 SECCHI I	DISC READINGS: PH
24 hr TIME: 1538  SEA STATE: N/A BLAC WEATHER CODE 02 WHIT	CK =
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED:1	<del></del>
TMCDECTOR: Popald Bukoski	

PROJECT: Bourne Bridge	DATE: <u>22 April 1981</u>
SAMPLER TYPE: KULLENBERG PISTON	DREDGE CORE WATER OTHER X
SAMPLE NO. SDE1-1	DESIGNATION: <u>SDE1-1</u>
COORDINATES: NORTH N/A	EAST
RANGES SEXTANT VISUAL	SOUNDING: N/A  LEAD LINE  FATHOMETER  TIDEBOARD  TIDE TABLE  TIDE CURVE  REDUCED SOUNDING:MLW
NUMBER OF ATTEMPTS:1	· ·
MATERIAL DESCRIPTION: Grass	s, silty sand, C-F sand, 15-25% silt
MATERIAL DEPTH: 0-1"	
SAMPLE DISPOSITION: BAG	JAR X LINER _ DISCARD
BARREL LENGTH: WE	EIGHT LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS  QUARTS  PINTS	TEMPERATURE DOD SALINITY
JULIAN DATE: 112 SECO	CHI DISC READINGS: pHREDOX
24 hr TIME: 1522 SEA STATE: N/A WEATHER CODE 02	BLACK = WHITE =
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED:	
INSPECTOR: Ronald Bukoski	

PROJECT: Bourne Bridge D.	ATE: <u>22 April 1981</u>
SAMPLER TYPE: KULLENBERG PISTON DREDGE	CORE WATER OTHER X
SAMPLE NO. <u>SDE1-2</u> D	ESIGNATION: <u>SDE1-2</u>
COORDINATES: NORTH N/A	_ EAST
RANGES SEXTANT VISUAL LORAN C TABLING Y	UNDING:N/A
NUMBER OF ATTEMPTS: N/A  MATERIAL DESCRIPTION: Silty sand,	
MATERIAL DEPTH: 3-6"	
SAMPLE DISPOSITION: BAG JAR X	
BARREL LENGTH: WEIGHT L	BS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMP QUARTS DOD PINTS SALI	
JULIAN DATE:112SECCHI DIS24 hr TIME:1525SEA STATE:N/ABLACKWEATHER CODE02WHITE	REDOX
OPERATIONAL DIFFICULTIES NO. OF SAMPLES SHIPPED:	
TNSPECTOR: Ronald Bukoski	

PROJECT: Bourne Bridge DATE: 22 April 1981	
SAMPLER TYPE: KULLENBERG PISTON DREDGE CORE WATER OTHER	<u>X</u>
SAMPLE NO. SDE1-3 DESIGNATION: SDE1-3	_
COORDINATES: NORTH N/A EAST	
DOCATION METHOD:   TRANSIT	
NUMBER OF ATTEMPTS: N/A	
MATERIAL DESCRIPTION: Sand, M-F sand	
MATERIAL DEPTH: 9-12"	
SAMPLE DISPOSITION: BAG JAR X LINER DISCARD	_
BARREL LENGTH: WEIGHT LBS: FREE FALL:	
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE  QUARTS DOD  PINTS SALINITY	
JULIAN DATE: 112 SECCHI DISC READINGS: PH	
24 hr TIME: 1527 REDOX  SEA STATE: N/A BLACK =  WEATHER CODE 02 WHITE =	
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED:	
INSPECTOR: Ronald Bukoski	

PROJECT: Bourne Bridge	DATE: <u>22 April 1981</u>
SAMPLER TYPE: KULLENBERG PISTON DREDG	E CORE WATER OTHER X
SAMPLE NO. SDE3-1	DESIGNATION: <u>SDE3-1</u>
COORDINATES: NORTH N/A	EAST
RANGES SEXTANT VISUAL	OUNDING:N/A  LEAD LINE FATHOMETER TIDEBOARD TIDE TABLE IDE CURVE EDUCED SOUNDING:MLW
NUMBER OF ATTEMPTS: N/A	
MATERIAL DESCRIPTION: Topsoil, s	
MATERIAL DEPTH: 0-1"	
SAMPLE DISPOSITION: BAG JAR	
BARREL LENGTH: WEIGHT	LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEM QUARTS DOD PINTS SAL	,
JULIAN DATE: 112 SECCHI DI	SC READINGS: pH
24 hr TIME: 1623  SEA STATE: N/A BLACK WEATHER CODE 02 WHITE	< =
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED:1	-
INSPECTOR: Ronald Bukoski	_

PROJECT: Bourne Bridge DATE: 22 April	1 1981
SAMPLER TYPE: KULLENBERG PISTON DREDGE CORE WA	ATER OTHER X
SAMPLE NO. SDE3-2 DESIGNATION: SI	DE3-2
COORDINATES: NORTH N/A EAST	
LOCATION METHOD:  TRANSIT SOUNDING:N RANGES LEAD LINE SEXTANT FATHOMETER VISUAL TIDEBOARD LORAN C TIDE TABLE TAPING X TIDE CURVE REDUCED SOUNDING:	
NUMBER OF ATTEMPTS: N/A  MATERIAL DESCRIPTION: Topsoil, silty sand, F san	
MATERIAL DEPTH: 3-6"	
SAMPLE DISPOSITION: BAG JAR X LINER DI	
BARREL LENGTH: WEIGHT LBS: FR	EE FALL:
WATER SAMPLES: NUMBER: GALLONS TEMPERATURE QUARTS DOD PINTS SALINITY	
JULIAN DATE: 112 SECCHI DISC READINGS:	pH REDOX
24 hr TIME: 16.25 SEA STATE: N/A BLACK = WHITE =	
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED:	
INSPECTOR: Ronald Bukoski	

PROJECT: Bourne Bridge	_ DATE: <u>22_A</u>	pril 1981	
SAMPLER TYPE: KULLENBERG PISTON DRE	DGE CORE	WATER	OTHER X
SAMPLE NO. SDE3-3	_ DESIGNATION:	SDE3-3	
COORDINATES: NORTH N/A	EAST		
RANGES SEXTANT VISUAL LORAN C	SOUNDING:  LEAD LINE FATHOMETER TIDEBOARD TIDE TABLE TIDE CURVE REDUCED SOUNDI	 _ 	
NUMBER OF ATTEMPTS: N/A	_		
MATERIAL DESCRIPTION: Silty sa	nd, F sand, 15-	·25% silt	
MATERIAL DEPTH: 9-12"			
SAMPLE DISPOSITION: BAG JA	R X LINER	DISCARD	
BARREL LENGTH: WEIGH	T LBS:	FREE FALL:	
WATER SAMPLES:  NUMBER: GALLONS T  QUARTS D  PINTS S	OD	- - -	
JULIAN DATE: 112 SECCHI 24 hr TIME: 1627	DISC READINGS:	PH REDOX	
SEA STATE: N/A BLA WEATHER CODE 02 WHI	CK = TE =		
OPERATIONAL DIFFICULTIES			
NO. OF SAMPLES SHIPPED:1	<del></del>		
INSPECTOR: Ronald Bukoski			

PROJECT: Bourne Bridge	DATE: <u>22 April 1981</u>
CAMPLED MYDE.	GE CORE WATER OTHER X
SAMPLE NO. NDW1-1	DESIGNATION: <u>NDW1-1</u>
COORDINATES: NORTH N/A	EAST
RANGES SEXTANT VISUAL LORAN C	SOUNDING:N/A  LEAD LINE FATHOMETER TIDEBOARD TIDE TABLE TIDE CURVE REDUCED SOUNDING:MLV
NUMBER OF ATTEMPTS: N/A	
MATERIAL DESCRIPTION: Silty sar	nd, C-F sand, 15-25% silt
MATERIAL DEPTH: 0-1"	
SAMPLE DISPOSITION: BAG JAN	R X LINER DISCARD
BARREL LENGTH: WEIGHT	r LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TI  QUARTS DO  PINTS SA	OD
	DISC READINGS: pHREDOX
24 hr TIME: 1007 SEA STATE: N/A BLAG WEATHER CODE 02 WHI	CK = TE =
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED:1	
INSPECTOR: Ronald Bukoski	<del></del>

#### BRIGGS ENGINEERING CORPORATION

#### ENVIRONMENTAL EXPLORATION LOG

PROJECT: Bourne Bridge DATE: 22 April 198	31
SAMPLER TYPE: KULLENBERG PISTON DREDGE CORE WATER	OTHER X
SAMPLE NO. NDW1-2 DESIGNATION: NDW1-2	)
COORDINATES: NORTH N/A EAST	
LOCATION METHOD:  TRANSIT SOUNDING:N/A  RANGES LEAD LINE SEXTANT FATHOMETER VISUAL TIDEBOARD LORAN C TIDE TABLE TAPING X TIDE CURVE REDUCED SOUNDING:	
NUMBER OF ATTEMPTS: N/A	
MATERIAL DESCRIPTION: Gravelly sand, C-F sand, 25-359 < 10% silt	
MATERIAL DEPTH: 3-6"	
SAMPLE DISPOSITION: BAG JAR X LINER DISCAR	)
BARREL LENGTH: WEIGHT LBS: FREE FA	ALL:
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE QUARTS DOD PINTS SALINITY	
JULIAN DATE:112SECCHI DISC READINGS:pH24 hr TIME:1011REDOXSEA STATE:N/ABLACK =WEATHER CODE02WHITE =	
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED:1	
INSPECTOR: Ronald Bukoski	

PROJECT: Bourne Bridge DATE: 22 April 1981
SAMPLER TYPE: KULLENBERG PISTON DREDGE CORE WATER OTHER
SAMPLE NO. NDW1-3 DESIGNATION: NDW1-3
COORDINATES: NORTH N/A EAST
DOCATION METHOD:   TRANSIT
NUMBER OF ATTEMPTS: N/A
MATERIAL DESCRIPTION: Gravelly sand, C-F sand, 15-20% M-F grave <10% silt
MATERIAL DEPTH: 9-12"
SAMPLE DISPOSITION: BAG JAR X LINER DISCARD
BARREL LENGTH: WEIGHT LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE  QUARTS DOD  PINTS SALINITY
JULIAN DATE:112SECCHI DISC READINGS:pH24 hr TIME:1015REDOXSEA STATE:N/ABLACK =WEATHER CODE02WHITE =
OPERATIONAL DIFFICULTIES
INSPECTOR: Ronald Bukoski

PROJECT: Bourne Bridge DATE: 22 April 1981
SAMPLER TYPE:  KULLENBERG PISTON DREDGE CORE WATER OTHER >
SAMPLE NO. NDW3-1 DESIGNATION: NDW3-1
COORDINATES: NORTH N/A EAST
DOCATION METHOD:   TRANSIT
NUMBER OF ATTEMPTS: N/A
MATERIAL DESCRIPTION: Sand, F sand, pine needles
MATERIAL DEPTH: 0-1"
SAMPLE DISPOSITION: BAG JAR X LINER DISCARD
BARREL LENGTH: WEIGHT LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE  QUARTS DOD  PINTS SALINITY
JULIAN DATE: 112 SECCHI DISC READINGS: PH
24 hr TIME: 1023 REDOX  SEA STATE: N/A BLACK =  WEATHER CODE 02 WHITE =
OPERATIONAL DIFFICULTIES
NO. OF SAMPLES SHIPPED:
INSPECTOR: Ronald Bukoski

PROJECT: Bourne Bridge DATE: 22 April 1981	
SAMPLER TYPE:  KULLENBERG PISTON DREDGE CORE WATER OTHER	
SAMPLE NO. NDW3-2 DESIGNATION: NDW3-2	
COORDINATES: NORTH N/A EAST	
LOCATION METHOD:  TRANSIT SOUNDING:N/A  RANGES LEAD LINE SEXTANT FATHOMETER VISUAL TIDEBOARD LORAN C TIDE TABLE TAPING X TIDE CURVE REDUCED SOUNDING:ML	
NUMBER OF ATTEMPTS: N/A	
MATERIAL DESCRIPTION: Sand, F sand	_
MATERIAL DEPTH: 3-6"	_
SAMPLE DISPOSITION: BAG JAR X LINER DISCARD	
BARREL LENGTH: WEIGHT LBS: FREE FALL:	_
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE QUARTS DOD PINTS SALINITY	
JULIAN DATE:112SECCHI DISC READINGS:pH24 hr TIME:1024REDOXSEA STATE:N/ABLACK =WEATHER CODE02WHITE =	
OPERATIONAL DIFFICULTIES	
TNSPECTOR: Ronald Bukoski	

PROJECT: Bourne Bridge	DATE: 22 April 1981
	GE CORE WATER OTHER X
SAMPLE NO. <u>NDW3-3</u>	DESIGNATION: <u>NDW3-3</u>
COORDINATES: NORTH N/A	EAST
RANGES SEXTANT VISUAL LORAN C	SOUNDING: N/A  LEAD LINE  FATHOMETER  TIDEBOARD  TIDE TABLE  TIDE CURVE  REDUCED SOUNDING:MLW
NUMBER OF ATTEMPTS: N/A	
MATERIAL DESCRIPTION: Sand, M-E	sand
MATERIAL DEPTH: 9-12"	
	R X LINER DISCARD
BARREL LENGTH: WEIGHT	r LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TI  QUARTS DO  PINTS SI	ODALINITY
JULIAN DATE: 112 SECCHI 124 hr TIME: 1026	DISC READINGS: pH REDOX
SEA STATE: N/A BLAWEATHER CODE 02 WHI	CK = TE =
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED:1	
INSPECTOR: Ronald Bukoski	

PROJECT: Bourne Bridge	DATE: <u>22 April 1981</u>
FROOTICE: BOULE.	
	GE CORE WATER OTHER X
	DESIGNATION: <u>NDE1-1</u>
COORDINATES: NORTH N/A	EAST
RANGES SEXTANT VISUAL LORAN C	SOUNDING: N/A  LEAD LINE  FATHOMETER  TIDEBOARD  TIDE TABLE  TIDE CURVE  REDUCED SOUNDING:MLW
NUMBER OF ATTEMPTS: N/A	
MATERIAL DESCRIPTION: Silty sar	d - Topsoil-Roots, C-F sand
MATERIAL DEPTH: 0-1"	
	R X LINER DISCARD
BARREL LENGTH: WEIGHT	T LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TI  QUARTS DO  PINTS SA	ALINITY
JULIAN DATE: 112 SECCHI	DISC READINGS: PH
24 hr TIME: 1136  SEA STATE: N/A BLAG WEATHER CODE 02 WHI	CK =
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED: 1	
INSPECTOR: Ronald Bukoski	<u> </u>

PROJECT: Bourne Bridge DATE: 22 April 1981
SAMPLER TYPE:  KULLENBERG PISTON DREDGE CORE WATER OTHER X
SAMPLE NO. NDE1-2 DESIGNATION: NDE1-2
COORDINATES: NORTH N/A EAST
LOCATION METHOD:  TRANSIT SOUNDING:N/A  RANGES LEAD LINE FATHOMETER TIDEBOARD TIDE TABLE TIDE TABLE TIDE CURVE REDUCED SOUNDING:MLV
NUMBER OF ATTEMPTS: N/A
MATERIAL DESCRIPTION: Sandy gravel, M-F gravel, C-F sand, <10% silt
MATERIAL DEPTH: 3-6"
SAMPLE DISPOSITION: BAG JAR X LINER DISCARD
BARREL LENGTH: WEIGHT LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE QUARTS DOD PINTS SALINITY
JULIAN DATE: 112 SECCHI DISC READINGS: pH
24 hr TIME: 1139  SEA STATE: N/A BLACK = WEATHER CODE 02 WHITE =
OPERATIONAL DIFFICULTIES
NO. OF SAMPLES SHIPPED:
TNSPECTOR. Ronald Bukoski

PROJECT: Bourne Bridge DATE: 22 April 1981
SAMPLER TYPE:  KULLENBERG PISTON DREDGE CORE WATER OTHER X
SAMPLE NO. NDE1-3 DESIGNATION: NDE1-3
COORDINATES: NORTH N/A EAST
DOCATION METHOD:   TRANSIT
NUMBER OF ATTEMPTS: N/A
MATERIAL DESCRIPTION: Gravelly sand, C-F sand, 15-20% M-F gravel
MATERIAL DEPTH: 9-12"
SAMPLE DISPOSITION: BAG JAR X LINER DISCARD
BARREL LENGTH: WEIGHT LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE  QUARTS DOD  PINTS SALINITY
JULIAN DATE: 112 SECCHI DISC READINGS: PH REDOX REDOX
SEA STATE: N/A BLACK = WEATHER CODE 02 WHITE =
OPERATIONAL DIFFICULTIES
NO. OF SAMPLES SHIPPED:
INSPECTOR: Ronald Bukoski

PROJECT: Bourne Bridge DATE: 22 April 1981
SAMPLER TYPE:  KULLENBERG PISTON DREDGE CORE WATER OTHER X
SAMPLE NO. NDE3-2 DESIGNATION: NDE3-2
COORDINATES: NORTH N/A EAST
LOCATION METHOD:  TRANSIT SOUNDING:N/A  RANGES LEAD LINE FATHOMETER TIDEBOARD TIDE TABLE TIDE TABLE TIDE CURVE REDUCED SOUNDING:MLW
NUMBER OF ATTEMPTS: N/A  MATERIAL DESCRIPTION: Sand-roots, C-F sand, <10% silt
MATERIAL DEPTH: 3-6"
SAMPLE DISPOSITION: BAG JAR X LINER DISCARD
BARREL LENGTH: WEIGHT LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE  QUARTS DOD  PINTS SALINITY
JULIAN DATE: 112 SECCHI DISC READINGS: pH
24 hr TIME: 1155 REDOX  SEA STATE: N/A BLACK =  WEATHER CODE 02 WHITE =
OPERATIONAL DIFFICULTIES
NO. OF SAMPLES SHIPPED:
INSPECTOR: Ronald Bukoski

PROJECT: Bourne Bridge DATE: 22 April 1981
SAMPLER TYPE:  KULLENBERG PISTON DREDGE CORE WATER OTHER ]
SAMPLE NO. NDE3-3 DESIGNATION: NDE3-3
COORDINATES: NORTH N/A EAST
DOCATION METHOD:   TRANSIT
NUMBER OF ATTEMPTS: N/A
MATERIAL DESCRIPTION: <u>Sand</u> , M-F sand
MATERIAL DEPTH: 9-12"
SAMPLE DISPOSITION: BAG JAR X LINER DISCARD
BARREL LENGTH: WEIGHT LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE  QUARTS DOD  PINTS SALINITY
JULIAN DATE: 112 SECCHI DISC READINGS: pH
24 hr TIME: 1159 REDOX  SEA STATE: N/A BLACK =  WEATHER CODE 02 WHITE =
OPERATIONAL DIFFICULTIES
NO. OF SAMPLES SHIPPED:
INSPECTOR: Ronald Bukoski

PROJECT: Bourne Bridge D	ATE: <u>22 April 1981</u>
SAMPLER TYPE: KULLENBERG PISTON DREDGE	CORE WATER OTHER X
SAMPLE NO. NBW3-1 D	ESIGNATION: <u>NBW3-1</u>
COORDINATES: NORTH N/A	_ EAST
RANGES SEXTANT VISUAL LORAN C TABLING Y	OUNDING:N/A LEAD LINE FATHOMETER TIDEBOARD TIDE TABLE DE CURVE CDUCED SOUNDING:MLW
NUMBER OF ATTEMPTS: N/A	
MATERIAL DESCRIPTION: Topsoil, gr	ass, M-F sand
MATERIAL DEPTH:	
SAMPLE DISPOSITION: BAG JAR }	LINER DISCARD
BARREL LENGTH: WEIGHT I	BS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMI QUARTS DOD PINTS SALE	
JULIAN DATE: 112 SECCHI DIS	SC READINGS: pH REDOX
24 hr TIME: 1034  SEA STATE: N/A BLACK WEATHER CODE 02 WHITE	=
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED:	
INSPECTOR: Ronald Bukoski	

PROJECT: Bourne Bridge	DATE: 22 April 1981
	GE CORE WATER OTHER X
	DESIGNATION: NBW3-2
COORDINATES: NORTH N/A	EAST
RANGES SEXTANT VISUAL LORAN C	SOUNDING: N/A  LEAD LINE  FATHOMETER  TIDEBOARD  TIDE TABLE  TIDE CURVE  REDUCED SOUNDING:MLW
NUMBER OF ATTEMPTS: N/A	
	m, 20-30% M-F sand
MATERIAL DEPTH:3-6"	
	R X LINER DISCARD
BARREL LENGTH: WEIGHT	T LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TI  QUARTS DO  PINTS SA	OD
— 1007	DISC READINGS: pH
24 hr TIME:	CK = TE =
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED:1	
TNEDECTOP. Ronald Bukoski	

PROJECT: Bourne Bridge	DATE: 22 Ar	oril 1981	
SAMPLER TYPE: KULLENBERG PISTON DRED	OGE CORE	WATER	OTHER X
SAMPLE NO. NBW3-3	DESIGNATION:	NBW3-3	
COORDINATES: NORTH N/A	EAST		
RANGES SEXTANT VISUAL LOBAN C	SOUNDING:  LEAD LINE  FATHOMETER  TIDEBOARD  TIDE TABLE  TIDE CURVE  REDUCED SOUNDIN	- - -	
NUMBER OF ATTEMPTS: N/A  MATERIAL DESCRIPTION: Sandy loa		sand	
MATERIAL DEPTH: 9-12"			
SAMPLE DISPOSITION: BAG JAH			
BARREL LENGTH: WEIGHT	r LBS:	FREE FALL:	
WATER SAMPLES:  NUMBER: GALLONS THE CONTROL OF C	JU		
JULIAN DATE: 112 SECCHI I	DISC READINGS:	pH REDOX	
24 hr TIME: 1040  SEA STATE: N/A BLAG WEATHER CODE 02 WHIT	CK =	REDUX	
OPERATIONAL DIFFICULTIES			
NO. OF SAMPLES SHIPPED:	<del></del>		
INSPECTOR: Ronald Bukoski	<del></del>		

HER <u>X</u>
MLW

PROJECT: Bourne Bridge DAT	E: <u>22 April 1981</u>
SAMPLER TYPE: KULLENBERG PISTON DREDGE _	_ CORE WATER OTHER X
SAMPLE NO. NBW1-2 DES	IGNATION: <u>NBW1-2</u>
COORDINATES: NORTH N/A	EAST
RANGES LE SEXTANT FA VISUAL TI LORAN C TIDE	IDING: N/A  CAD LINE ATHOMETER CDEBOARD CDE TABLE CCURVE UCED SOUNDING:MLW
NUMBER OF ATTEMPTS: N/A  MATERIAL DESCRIPTION: Sand, C-F sand  MATERIAL DEPTH: 3-6"	
SAMPLE DISPOSITION: BAG JAR X_	
BARREL LENGTH: WEIGHT LBS	
WATER SAMPLES:  NUMBER: GALLONS TEMPED  QUARTS DOD  PINTS SALIN	RATURE
JULIAN DATE:112SECCHI DISC24 hr TIME:1055SEA STATE:N/ABLACK =WEATHER CODE02WHITE =	REDUX
OPERATIONAL DIFFICULTIES	
INSPECTOR: Ronald Bukoski	

PROJECT: Bourne Bridge	_ DATE:22 April 1981
SAMPLER TYPE: KULLENBERG PISTON DRE	DGE CORE WATER OTHER X
SAMPLE NO. <u>NBW1-3</u>	_ DESIGNATION: <u>NBW1-3</u>
COORDINATES: NORTH N/A	EAST
RANGES SEXTANT VISUAL LORAN C	SOUNDING:N/A  LEAD LINE FATHOMETER TIDEBOARD TIDE TABLE TIDE CURVE REDUCED SOUNDING:MLW
	-F sand, <5% silt
	AR X LINER DISCARD
	HT LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS I  OUARTS I	remperature
JULIAN DATE:112SECCHI24 hr TIME:1057SEA STATE:N/ABLAWEATHER CODE02WHI	DISC READINGS: pH REDOX  ACK = ITE =
OPERATIONAL DIFFICULTIESNO. OF SAMPLES SHIPPED:1	
INSPECTOR: Ronald Bukoski	<del></del>

	PROJECT: Bourne Bridge DATE: 22 April 1981
es	SAMPLER TYPE:  KULLENBERG PISTON DREDGE CORE WATER OTHER X
=	SAMPLE NO. NBE1-1 DESIGNATION: NBE1-1
	COORDINATES: NORTH N/A EAST
<u></u>	DOCATION METHOD:   TRANSIT
≊ <b>s</b>	NUMBER OF ATTEMPTS: N/A  MATERIAL DESCRIPTION: Topsoil, sandy loam, C-F sand
<b></b>	MATERIAL DEPTH: 0-1"
	SAMPLE DISPOSITION: BAG JAR X LINER DISCARD
a a	BARREL LENGTH: WEIGHT LBS: FREE FALL:
er e	WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE  QUARTS DOD  PINTS SALINITY
	JULIAN DATE:112SECCHI DISC READINGS:pH24 hr TIME:1122REDOX
-1	SEA STATE: N/A BLACK = WEATHER CODE 02 WHITE =
<u>~</u>	OPERATIONAL DIFFICULTIES
-,	NO. OF SAMPLES SHIPPED:
	INSPECTOR: Ronald Bukoski

PROJECT: Bourne Bridge DATE: 22 April 1981
SAMPLER TYPE:  KULLENBERG PISTON DREDGE CORE WATER OTHER >
SAMPLE NO. NBE1-2 DESIGNATION: NBE1-2
COORDINATES: NORTH N/A EAST
LOCATION METHOD:  TRANSIT SOUNDING: N/A  RANGES LEAD LINE SEXTANT FATHOMETER VISUAL TIDEBOARD LORAN C TIDE TABLE TAPING X TIDE CURVE REDUCED SOUNDING:ML
NUMBER OF ATTEMPTS: N/A
MATERIAL DESCRIPTION: Silty sand, M-F sand, 10-15% silt
MATERIAL DEPTH: 3-6"
SAMPLE DISPOSITION: BAG JAR X LINER DISCARD
BARREL LENGTH: WEIGHT LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE QUARTS DOD PINTS SALINITY
JULIAN DATE: 112 SECCHI DISC READINGS: pH
24 hr TIME: 1127  SEA STATE: N/A BLACK = WEATHER CODE 02 WHITE =
OPERATIONAL DIFFICULTIES
NO. OF SAMPLES SHIPPED:
INSPECTOR: Ronald Bukoski

PROJECT: Bourne Bridge DATE: 22 April 1981
SAMPLER TYPE:  KULLENBERG PISTON DREDGE CORE WATER OTHER X
SAMPLE NO. NBE1-3 DESIGNATION: NBE1-3
COORDINATES: NORTH N/A EAST
DOCATION METHOD:   TRANSIT
NUMBER OF ATTEMPTS: N/A
MATERIAL DESCRIPTION: 9", 1" stratum organic silt 10 to 12" sand  C-F sand
MATERIAL DEPTH: 9-12"
SAMPLE DISPOSITION: BAG JAR X LINER DISCARD
BARREL LENGTH: WEIGHT LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE QUARTS DOD PINTS SALINITY
JULIAN DATE:112SECCHI DISC READINGS:pH24 hr TIME:1132REDOXSEA STATE:N/ABLACK =WEATHER CODE02WHITE =
OPERATIONAL DIFFICULTIES
NO. OF SAMPLES SHIPPED:
INSPECTOR: Ronald Bukoski

PROJECT: Bourne Bridge DATE: 22 April 1981
SAMPLER TYPE: KULLENBERG PISTON DREDGE CORE WATER OTHER
SAMPLE NO. NBE3-1 DESIGNATION: NBE3-1
COORDINATES: NORTH N/A EAST
DOCATION METHOD:   TRANSIT
NUMBER OF ATTEMPTS: N/A
MATERIAL DESCRIPTION: Loamy sand, M-F sand
MATERIAL DEPTH: 0-1"
SAMPLE DISPOSITION: BAG JAR X LINER DISCARD
BARREL LENGTH: WEIGHT LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE QUARTS DOD PINTS SALINITY
JULIAN DATE: 112 SECCHI DISC READINGS: PH
24 hr TIME: 1206 REDOX  SEA STATE: N/A BLACK = WEATHER CODE 02 WHITE =
OPERATIONAL DIFFICULTIES
NO. OF SAMPLES SHIPPED:
INSPECTOR: Ronald Bukoski

PROJECT: Bourne Bridge DATE: 22 April 1981
SAMPLER TYPE:  KULLENBERG PISTON DREDGE CORE WATER OTHER X
SAMPLE NO. NBE3-2 DESIGNATION: NBE3-2
COORDINATES: NORTH N/A EAST
SOUNDING: N/A
NUMBER OF ATTEMPTS: N/A  MATERIAL DESCRIPTION: Loamy sand, M-F sand, 20-30% organic silt  <5% F gravel
MATERIAL DEPTH: 3-6"  SAMPLE DISPOSITION: BAG JAR X LINER DISCARD
BARREL LENGTH: WEIGHT LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE QUARTS DOD PINTS SALINITY
JULIAN DATE:       112       SECCHI DISC READINGS:       pH         24 hr TIME:       1208       REDOX         SEA STATE:       N/A       BLACK =         WEATHER CODE       02       WHITE =
OPERATIONAL DIFFICULTIES  NO. OF SAMPLES SHIPPED:  INSPECTOR: Ronald Bukoski

PROJECT: Bourne Bridge DATE: 22 April 1981
SAMPLER TYPE:  KULLENBERG PISTON DREDGE CORE WATER OTHER X
SAMPLE NO. NBE3-3 DESIGNATION: NBE3-3
COORDINATES: NORTH N/A EAST
SOUNDING: N/A
NUMBER OF ATTEMPTS: N/A
MATERIAL DESCRIPTION: Silty sand, M-F sand, 15-25% silt
MATERIAL DEPTH: 9-12"
SAMPLE DISPOSITION: BAG JAR X LINER DISCARD
BARREL LENGTH: WEIGHT LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE  QUARTS DOD  PINTS SALINITY
JULIAN DATE: 112 SECCHI DISC READINGS: pH
24 hr TIME: 1212 REDOX  SEA STATE: N/A BLACK = WEATHER CODE 02 WHITE =
OPERATIONAL DIFFICULTIES
NO. OF SAMPLES SHIPPED:
INSPECTOR: Ronald Bukoski

PROJECT: Bourne Bridge	DATE: 22 April 1981
SAMPLER TYPE: KULLENBERG PISTON DREDO	GE CORE WATER OTHER X
SAMPLE NO. NAWA-1	DESIGNATION: NAWA-1
COORDINATES: NORTH N/A	EAST
RANGES SEXTANT VISUAL LORAN C TABING X	SOUNDING: N/A  LEAD LINE  FATHOMETER  TIDEBOARD  TIDE TABLE  FIDE CURVE  REDUCED SOUNDING:MLW
NUMBER OF ATTEMPTS: N/A	
MATERIAL DESCRIPTION: Grass, sai	nd, C-F sand
MATERIAL DEPTH: 0-1"	
SAMPLE DISPOSITION: BAG JAR	X LINER DISCARD
BARREL LENGTH: WEIGHT	LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TENDO QUARTS DO PINTS SA	D
24 br mtM₽• 1103	ISC READINGS: pH
SEA STATE: N/A BLAC WEATHER CODE 02 WHIT	K = E =
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED:1	_
TNSPECTOR: Ronald Bukoski	_

PROJECT: Bourne Bridge DATE: 22 April 1981
SAMPLER TYPE:  KULLENBERG PISTON DREDGE CORE WATER OTHER X
SAMPLE NO. NAWA-2 DESIGNATION: NAWA-2
COORDINATES: NORTH N/A EAST
LOCATION METHOD:  TRANSIT SOUNDING:N/A  RANGES LEAD LINE FATHOMETER VISUAL TIDEBOARD LORAN C TIDE TABLE TIDE CURVE REDUCED SOUNDING: MLW
NUMBER OF ATTEMPTS: N/A  MATERIAL DESCRIPTION: Sand, C-F sand, <5% roots, <5% silt
MATERIAL DEPTH: 3-6"
SAMPLE DISPOSITION: BAG JAR X LINER DISCARD
BARREL LENGTH: WEIGHT LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE QUARTS DOD PINTS SALINITY
JULIAN DATE:112SECCHI DISC READINGS:pH24 hr TIME:1105REDOXSEA STATE:N/ABLACK =WEATHER CODE02WHITE =
OPERATIONAL DIFFICULTIES
NO. OF SAMPLES SHIPPED:
TNSPECTOR: Ronald Bukoski

<u>X</u>
W
1
_
_
_
_
<u> </u>

PROJECT: Bourne Bridge	DATE: 22 April 1981
SAMPLER TYPE: KULLENBERG PISTON DRED	OGE CORE WATER OTHER X
SAMPLE NO. NAEA-1	DESIGNATION: NAEA-1
COORDINATES: NORTH N/A	EAST
RANGES SEXTANT VISUAL LORAN C	SOUNDING: N/A  LEAD LINE  FATHOMETER  TIDEBOARD  TIDE TABLE  TIDE CURVE  REDUCED SOUNDING:MLW
NUMBER OF ATTEMPTS: N/A	-
MATERIAL DESCRIPTION: Sand, C-	F sand
MATERIAL DEPTH: 0-1"	
SAMPLE DISPOSITION: BAG JAN	R X LINER DISCARD
BARREL LENGTH: WEIGH	T LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS T  QUARTS D  PINTS S	OD
JULIAN DATE: 112 SECCHI	DISC READINGS: pH
24 hr TIME: 1112  SEA STATE: N/A BLA WEATHER CODE 02 WHI	CK =
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED: 1	
INSPECTOR: Ronald Bukoski	

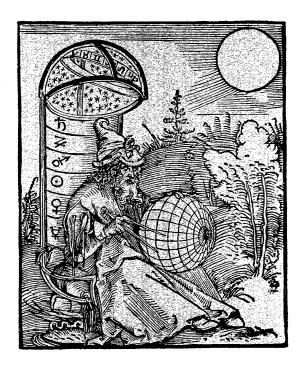
#### BRIGGS ENGINEERING CORPORATION

#### ENVIRONMENTAL EXPLORATION LOG

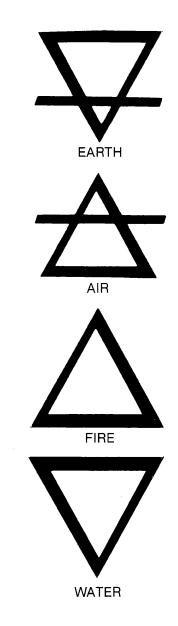
PROJECT: Bourne Bridge DATE: 22 April 1981
SAMPLER TYPE:  KULLENBERG PISTON DREDGE CORE WATER OTHER X
SAMPLE NO. NAEA-2 DESIGNATION: NAEA-2
COORDINATES: NORTH N/A EAST
LOCATION METHOD:  TRANSIT SOUNDING:N/A  RANGES LEAD LINE  SEXTANT FATHOMETER  VISUAL TIDEBOARD  LORAN C TIDE TABLE  TAPING X TIDE CURVE  REDUCED SOUNDING:MLW
NUMBER OF ATTEMPTS: N/A
MATERIAL DESCRIPTION: Gravelly sand, C-F sand, 10-15% F gravel, <10% silt
MATERIAL DEPTH: 3-6"
SAMPLE DISPOSITION: BAG JAR X LINER _ DISCARD
BARREL LENGTH: WEIGHT LBS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMPERATURE QUARTS DOD PINTS SALINITY
JULIAN DATE:112SECCHI DISC READINGS:pH24 hr TIME:1114REDOXSEA STATE:N/ABLACK =WEATHER CODE02WHITE =
OPERATIONAL DIFFICULTIES
NO. OF SAMPLES SHIPPED:
INCRECTOR. Ponald Bukoski

PROJECT: Bourne Bridge	DATE: 22 April 1981
	GE CORE WATER OTHER X
	DESIGNATION: <u>NAEA-2</u>
COORDINATES: NORTH N/A	EAST
RANGES SEXTANT VISUAL LORAN C	SOUNDING:N/A
_<10%_S11	sand, C-F snd, 10-15% F gravel,
	DISCARD
	R X LINER _ DISCARD T LBS: FREE FALL:
BARREL LENGTH: WEIGH	T LBS:
WATER SAMPLES:  NUMBER: GALLONS T  QUARTS D  PINTS S	OD
SEA STATE: N/A BLA	DISC READINGS: pH  REDOX  CK =  TE =
OPERATIONAL DIFFICULTIES	
NO. OF SAMPLES SHIPPED: 1	
INSPECTOR: Ronald Bukoski	

PROJECT: Bourne Bridge I	OATE: 22 April 1981
SAMPLER TYPE: KULLENBERG PISTON DREDGE	E CORE WATER OTHER X
SAMPLE NO. NAEA-3	DESIGNATION: <u>NAEA-3</u>
COORDINATES: NORTH N/A	EAST
RANGES SEXTANT VISUAL LORAN C TAPING X	DUNDING:N/A LEAD LINE FATHOMETER TIDEBOARD TIDE TABLE IDE CURVE EDUCED SOUNDING:MLW
NUMBER OF ATTEMPTS: N/A	
MATERIAL DESCRIPTION: Sand, C-F s	
MATERIAL DEPTH: 9-12"	
SAMPLE DISPOSITION: BAG JAR }	LINER DISCARD
BARREL LENGTH: WEIGHT I	BS: FREE FALL:
WATER SAMPLES:  NUMBER: GALLONS TEMPLOD DOD DINTS DOD SALE	
JULIAN DATE:112SECCHI DIS24 hr TIME:1117SEA STATE:N/ABLACKWEATHER CODE02WHITE	REDOX
OPERATIONAL DIFFICULTIES  NO. OF SAMPLES SHIPPED:	
INSPECTOR: Ronald Bukoski	



In ancient times
Greek and Hindu philosophers
believed that there were
four elements in the material universe
— EARTH, AIR, FIRE and WATER.
Over the years
man's knowledge has expanded
and the world of materials
is now known to be extremely complex.
The unravelling of these complexities
is the continuing goal of
Briggs Engineering & Testing Company.



#### BRIGGS

Engineering and Testing

164 Washington Street, Norwell, Massachusetts 02061

Telephone (617) 773-2780